

CRISSAL THRASHER (*Toxostoma crissale*)

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Criteria Scores

Population Trend	Range Trend	Population Size	Range Size	Endemism	Population Concentration	Threats
15	0	10	10	0	0	20

Special Concern Priority

Currently considered a Bird Species of Concern (year round), First Priority. The species was included on the original Bird Species of Special Concern list (Remsen 1978) as a A Third Priority.≡ Included on CDFG=s (1992) unprioritized list.

Breeding Bird Survey Statistics for California

Data inadequate for trend assessment (Sauer et al. 2000).

General Range and Abundance

Distributed in widely scattered patches of habitat throughout the southwestern portions of the United States from southeast California east through southern Nevada, southwestern Utah, northern Arizona, southwestern New Mexico to western Texas and south to south-central Mexico and west to northeast Baja California (AOU 1998).

Seasonal Status in California

Occurs as a year-round resident; breeding season extends from late February to late July.

Historical Range and Abundance in California

Grinnell and Miller (1944) described the crissal thrasher as a permanent resident with small numbers at the western periphery of its range but A fairly common≡ where mesquite habitat is well developed. They further described the range as being all along the California portion of the Colorado River then west through the Imperial and Coachella valleys to Palm Springs and the east

slope of the Providence Mountains. Grinnell and Miller (1944) did not mention any appreciable range or habitat loss that had occurred up to that time.

Recent Range and Abundance in California

The general outline of this species' range in California has changed little since Grinnell and Miller (1944). Since then the species has been found to occur in the Borrego Valley, San Diego County, and extend farther north than presumably known by Grinnell and Miller (1944) to southeastern Inyo County near Tecopa and Shoshone (Garrett and Dunn 1981). In addition to the Providence Mountains mentioned by Grinnell and Miller (1944), more recent authors have added the nearby Granite, New York and Clark Mountains to the species' known range (Garrett and Dunn 1981, Cody 1999). The center of abundance in California continues to be the riparian habitat along the Colorado River.

Ecological Requirements

Range wide, this species occupies a relatively large variety of desert riparian and scrub habitats over a considerably broad range of elevation, below sea level to over 6000 ft (1800 m). Within California this range of habitats is more restricted but still quite broad. The common factor, regardless of habitat type and species of shrubs utilized, is dense cover. While desert riparian and desert wash habitats are predominately used by this species, higher elevation habitats near the pinyon juniper belt are also utilized. Dominant species of shrubs in occupied habitat include mesquite (*Prosopis* sp.), catclaw acacia (*Acacia greggii*), desert ironwood (*Olneya tesota*), willows (*Salix* sp.), sagebrush (*Artemisia* sp.), desert apricot (*Prunus fasciculatum*), desert-thorn (*Lycium cooperi*), bitterbrush (*Purshia glandulosa*), saltbush (*Atriplex* sp.) and saltcedar (*Tamarix* sp.) (Hunter et al. 1988, Rosenberg et al. 1991 and Cody 1999). These species of shrubs are often found in loose, sandy soil or alluvium. In addition, this thrasher uses agricultural edges, including citrus orchards when adjacent to native habitat patches (Rosenberg et al. 1991). Within the above-

mentioned habitats, nests are most often placed in the densest portions of shrubs (Engels 1940). These well-concealed nest sites may help reduce egg and nestling predation from aerial predators (Rosenberg et al. 1991, Cody 1999). While some elevational movements (Engels 1940) and seasonal shifts in habitat use (Rosenberg et al. 1991) have been noted, more work is needed to determine the frequency and importance of such movements.

The crissal thrasher forages on the ground using its long, curved bill to probe through friable soil and sift through leaf litter in search of prey. In an investigation of 32 stomach samples, Rosenberg et al. (1991) found 21 arthropod and two plant taxa. The relative abundance of different food items varied seasonally. Beetles were most important throughout the year while other prey items were taken as available, such as caterpillars in fall, winter and spring; maggots in summer; grasshoppers in late summer; and ants in winter (Rosenberg et al. 1991). Small lizards are also occasionally taken (Bent 1948). Consumption of fruits, berries and seeds occurs to a minor degree, mostly from October to April (Cody 1999). Water is often present at occupied sites and while the species is known to drink water, the presence of free water is not thought to be critical to the species (Dobkin et al. 1990, Cody 1999).

Threats

The extent and severity of threats to this species have not been well studied. However, its reliance on narrow belts of habitat along riparian areas and desert washes, and its occurrence in isolated patches of mesquite and other dense shrubs makes the species vulnerable to habitat fragmentation, and habitat loss. The highest reported densities for this species in California are along the Colorado River. Much of the riparian habitat there has been converted to agriculture along with some conversion to urban development. Elsewhere in its California range, riparian habitat has also been disproportionately replaced by agriculture and urban development. In addition to habitat removal, these riparian areas have been degraded by habitat fragmentation from roads, and smaller agricultural and urban developments. Also, habitat has been degraded by the introduction of salt

cedar (*Tamarix* spp.), a non-native and invasive woody species. While providing much shade and vertical cover, requirements of this species, the salt accumulation in the leaves reduces the diversity and abundance of prey. Colorado River stabilization and channelization have been accredited with increasing the amount of screwbean mesquite, a community suitable for this species (Rosenberg et al. 1991). It is unlikely that this increase in occupied habitat has offset the large amount of habitat lost to agriculture. This also indicates that changes in flood regimes and other natural hydrological processes could have other influences, positive and negative, to the perpetuation of habitats on which this species depends. While it is encouraging that the species demonstrates a certain degree of flexibility in habitat choice as indicated by its documented utilization of agricultural edges adjacent to natural habitat (Rosenberg et al. 1991), it is unlikely that urban environments will provide usable habitat for this species (Rosenberg 1987).

While the crissal thrasher is apparently more vagile than other sickle-billed thrashers (Laudenslayer et al. 1993), increasing distances between habitat patches could result in these occupied areas functioning as population islands and becoming more susceptible to extirpation (Soule 1987). Desert washes and riparian areas are often the locations of off-highway vehicle trails. High intensity recreation use along these narrow corridors could negatively affect this species. The disturbance caused by livestock to this species= habitat has not been studied, however livestock use could change the structure of habitat enough to render it unsuitable. As elsewhere in California, the desert habitats have been changed by the addition of non-native annual species. These non-native species can become so abundant as to increase the risk and intensity of fire. The effects of fire on this species= habitat are not currently known.

Some species have increased as a result of the agricultural and urban development in the California deserts. The increase in species such as common raven and American crow could result in higher nest predation rates in crissal thrashers.

Management and Research Recommendations

- ☐ determine full extent of habitat and occupancy
- ☐ determine species= ability/tendency to move within and between habitat areas
- ☐ develop a map of genetic distances between occupied areas
- ☐ determine the importance of the populations along the Colorado River in genetically linking other populations
- ☐ determine the smallest habitat patches with viable populations
- ☐ determine nest predation rates and determine causes of such

Monitoring Needs

- ☐ the state=s breeding habitat should be mapped and monitored for changes in areal extent
- ☐ a subset of breeding populations should be monitored statewide, stratified by habitat type
- ☐ determine the statewide distribution and calculate distances between populations
- ☐ determine the effect of tamarisk invasion of riparian areas on breeding density and success

Acknowledgments

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